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ABSTRACT

Library/Information Science (LIS) education is facing cataclysmic change brought about by changes in the information professions. LIS education must provide education for the evolving information professions or it will become obsolete. Two central characteristics describe the status of LIS schools and their likely evolution. First is the depth and range of their programs. Some schools offer only one degree, the MLS (Master's degree in Library Science). Other programs have multiple degrees and specializations at the undergraduate and graduate levels. The second characteristic is the program perspective. Some LIS programs begin with the presumption that the school is shaped by the discipline of library science. Others begin with the presumption that they are defined by the evolving information professions. LIS schools that will prosper will develop models of graduate and undergraduate information studies; they will develop a range of program specializations to meet the needs of existing and evolving information professional niches; and they will integrate a range of information from other disciplines into coherent programs of "information studies." Intended to serve as a catalyst for discussion of LIS education and the role of specialization, this essay: (1) explores the definition of specialization; (2) assesses the existing context in which LIS programs operate; (3) presents several possible scenarios to develop specialization in LIS education; and (4) identifies and analyzes key issues related to the implementation of specialization in LIS education. A discussion of five change strategies and the characteristics of strategic thinking necessary to bring change concludes the essay. (Contains 32 references.) (KRN)

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SPECIALIZATION IN LIBRARY/INFORMATION SCIENCE EDUCATION:

ISSUES, SCENARIOS, AND THE NEED FOR ACTION

by

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Library/Information Science (LIS) education currently faces a turning point in its existence: either it becomes absolutely essential to and inextricably intertwined with the education of the evolving information professions, or it becomes obsolete and dies a slow and painful death. Indeed, some LIS education has been judged to be "inappropriate" ("Columbia SLS to Close," 1990) and, as we know, a number of programs have been discontinued. Our response to this challenge affects not only LIS education; it affects the fabric of the information professions, the manner in which we define ourselves, what we do, who we serve, and the role that LIS plays in today's and tomorrow's society.

To meet this challenge successfully will require LIS educators, practitioners, graduates, employers, and other key stakeholders to embrace and champion cataclysmic change. Cataclysmic change is dramatic upheaval that sweeps away old landmarks and introduces massive changes throughout societal institutions. Before we can describe strategies to create and manage this cataclysmic change, it is important that we describe our view of the existing landscape of LIS programs.

Figure 1 offers a typology of LIS programs and attempts to explain, in part, LIS program development in recent years. As suggested later in this paper, there are numerous factors that can be used to describe LIS schools. Our assessment of these factors suggests that two are especially important for understanding the current status of LIS schools and their likely evolution.

- Depth and Range of Program: At one end of the continuum, LIS programs have limited programs, typically the one graduate MLS degree. At the other end, some LIS programs have multiple degrees and specializations at both the graduate and undergraduate levels.

- Program Perspective: Some LIS programs begin with the presumption that library science as a discipline is the basis for the program. At the other end of the spectrum, some LIS schools begin with the presumption that they are a professional school defined by the current and evolving information professions.

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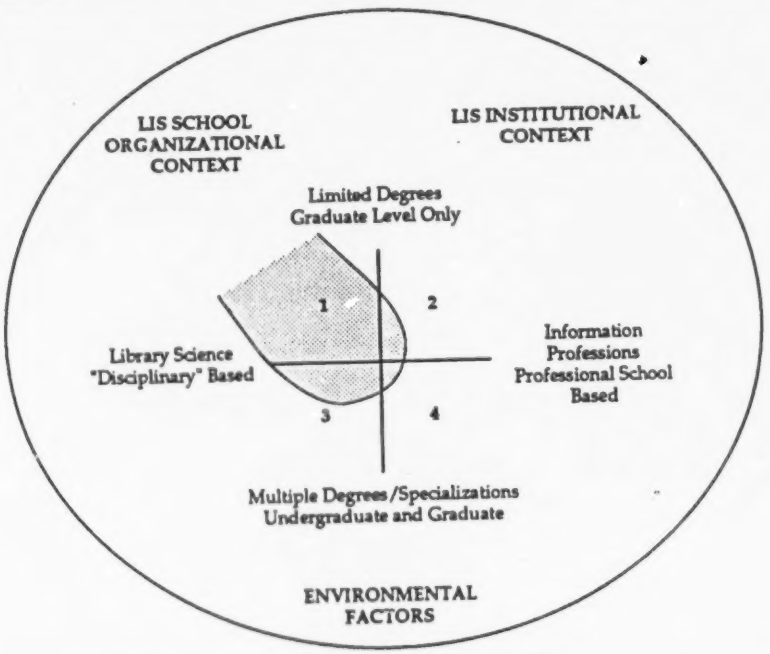
Figure 1. Typology of LIS Programs



Note: Shaded area represents general emphasis of LIS schools today

Figure 1 relates these two factors in a contingency table suggesting four general types of LIS programs. The shaded area describes the location of LIS schools today in light of this model.

Cell 1 describes the traditional LIS program. In many instances, even though the LIS school includes "information science" in its title, the fact remains that it is largely library science-based. Cell 2 depicts the efforts in the early 1980s when LIS schools attempted to move their program more toward an information professions-based program and away from traditional library science. Also there continues to be efforts (as suggested in cell 3) to develop joint programs and various types of specializations largely within a library-based context A handful of schools are now developing programs to operate in cell 4. In this cell, library education is but one of the many professional niches in the larger information profession milieu. The LIS school in cell 4 designs both graduate and undergraduate programs for a range of information professional niches.

A key point in Figure 1 is the institutional context, the organizational context, and the interaction of the school with the larger environment in which the LIS program finds itself. We suggest that given institutional assumptions, resources, and perceptions of the LIS program, a particular LIS school may be able to define target niches and prosper in any of the cells. However, it may also be that the cell selected by the LIS school is in dissonance with the mission of the institution. In short, the match between the LIS school and the institution is key to the success of any LIS program, regardless of the cell in which it resides.

Some LIS schools may be able to prosper in cell 1 (given their setting), but in some instances, there will be increased pressure from the host institutions to either discontinue cell 1 programs or move them toward cell 4. Moreover, schools that do continue to operate in cell 1 may do a disservice to library professionals by encouraging their isolation from the other information professions.

Trends in higher education for the 1990s suggest that broader-based, interdisciplinary and cross-disciplinary professional schools, having significant critical mass and students will be those most likely to flourish. The movement of LIS programs from cell 1 to cell 3 seems to be the direction desired by many library practitioners. Such movement, however, may only exacerbate the existing isolation of library education from the larger context of the evolving information professions.

The future for LIS schools is in cell 4. The LIS schools that will prosper and, at the same time advance the quality and status of library education, will develop models of graduate and undergraduate information studies; they will develop a range of program specializations to meet the needs of existing and evolving information professional niches; and they will integrate a range of information from other disciplines into coherent programs of "information studies." The task before the LIS schools today is how to effect change in order to move toward cell 4.

This essay is intended to serve as a catalyst for attendees to assess LIS education, in general, and to explore the role of specializations in particular. It supports the notion that LIS programs should develop a more purposeful and structured academic program in one or more areas of specialization. It is a call to arms to take action, make decisions, and move toward massive and fundamental change of our LIS educational programs. More specifically, the essay aims to:

- Explore the definition of specialization
- Assess the existing context in which LIS programs operate
- Present several possible scenarios to develop specialization in LIS education
- Identify and analyze key issues related to the implementation of specialization in LIS education.

Ultimately, this essay and the resulting discussion and decisions from this conference can serve as a key step in initiating significant change in LIS educational programs.

THE NOTION OF SPECIALIZATION

This essay makes no pretense of reviewing comprehensively the literature on improving LIS education and developing specializations within such programs, numerous others have already done so. Rather, it hopes to offer a perspective that will encourage the change necessary in LIS education. In order to develop that perspective, the essay first addresses the concept of specialization itself.

Goals of Specialization

While a number of goals can be suggested for programs of specialization, we base our discussion on the following three. Programs of specialization should:

- Increase the knowledge and skills that LIS graduates bring to specific niches in the information professions.
- Assist graduates from LIS programs to operate more effectively and productively in specific information-based positions.
- Improve societal perceptions that a professional degree from a LIS program has high credibility and value.

Certainly, other goals can be proposed as well. These, however, offer a context in which to discuss what specialization is intended to accomplish.

The authors also hold the following assumptions: current LIS programs are increasingly unable to keep up to date with the ongoing change occurring in today's complex information environments, institutions of higher education are increasingly unable or unwilling to support such programs, successful specialization in LIS education cannot occur within its traditional isolated structure on campus and 36-credit hour framework, and current programs do not adequately encourage or educate their graduates to think creatively and innovatively thereby exacerbating endemic problems in information organization, retrieval, management, dissemination, and use.

What is Specialization?

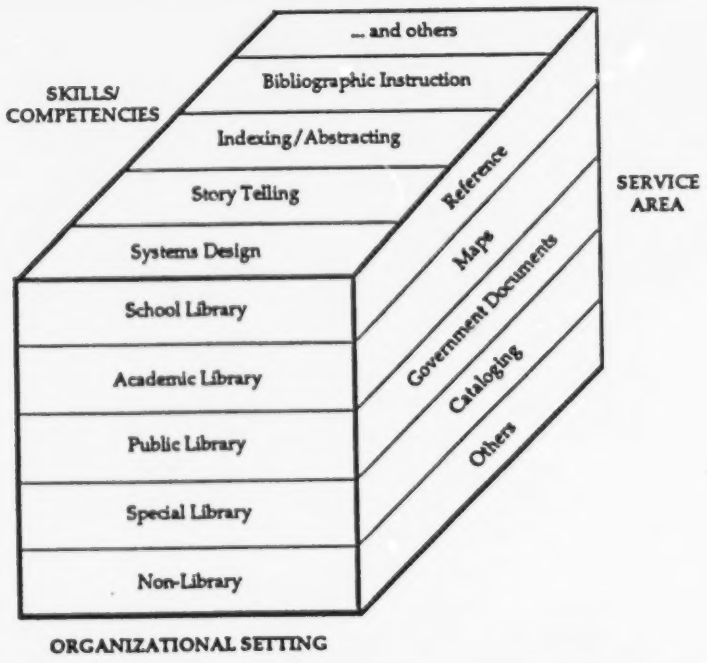
Numerous articles discuss specializations in the LIS curriculum and the competencies which might be associated with such specializations (e.g., Cloonan, 1991; Griffiths and King, 1986; Hill, 1990; Schmidt, 1990; Woodsworth and Lester, 1991). However, as Summers (1991, p. 211) suggests, "the fact of the matter is that the profession, including library schools, has never come to grips with what specialization in the field means." While there seems to be no explicit definition, the implied definition is that a specialization is a set of courses designed to provide the competencies necessary for a graduate to function in a particular organizational setting or to perform a certain type of work.

Three main approaches to describing a specialization exist. The first is by type of organizational setting (e.g., special library, academic library). The second is by a specific service area (e.g., government documents, maps, reference, information systems) and the third is by skills/competencies (e.g., indexer/abstracting, collection development, bibliographic instruction). Moreover, there can be some overlap between skills/competencies and service areas. It is possible, nonetheless, to develop a myriad range of specializations that combine aspects of the dimensions (e.g., reference in a special library). Figure 2 summarizes these traditional approaches to defining specializations.

These approaches to specialization have limited usefulness as we attempt to articulate new visions of LIS education. They tend to be library-centered and based on existing types of positions. They also compartmentalize competencies into the various cells rather than emphasizing the commonalities across cells. This compartmentalization may also lead to a fragmenting of what are considered to be the essential competencies, attitudes, and knowledge of the profession as well as reinforce a complacent and non-experimental attitude towards LIS education.

This traditional view of specializations has led some observers to argue that specialization in an MLS program is not appropriate. They point to evidence which suggests that:

Figure 2. Traditional View of LIS Specializations



- Employers seem unwilling to pay for specialized degrees, and while they frequently want an ALA-accredited degree they do not specify specific courses (Marchant and Wilson, 1983; White and Paris, 1985).

- Students are primarily self-recruiting and come from the local area. Many employers may not be able to recruit nationally but need to hire employees from a local pool (Robbins-Carter and Seavey, 1986; White and Mort, 1990).

- Employees change the type of job they do over the course of their career (Fisher, 1987; White and Mort, 1990).

- Students may not know what they want to specialize in (White and Mort, 1990).

- Specialization may create the impression that people who have not been trained in a particular specialty cannot perform adequately in a different specialty area (Koenig and Safford, 1984).

- Specialization may create employees who can fit into particular jobs but may work against the creation of flexible employees who can capitalize on opportunities (Martin, 1986; Woodsworth and Lester, 1991).

It must be remembered that these disincentives are based on the existing definition of specialization as described in Figure 2. Much of the empirical evidence which argues for them is based on research which asked respondents about existing types of specializations. Many of these disincentives to specialization may, in fact, not exist given a new type of specialization in our programs. A new vision could also act as a change agent, mitigating the influence of other disincentives.

Redefining Specializations

To articulate new visions for specialization and foster cataclysmic change requires a new definition of specialization. The one we will adopt in this paper is as follows:

> Specialization in LIS education produces graduates with a set of skills, competencies, and attitudes that define and fill the needs of current and evolving niches in the information society. Specialization can draw upon differing combinations of teaching philosophies, institutional and program strengths, curricular content, and fieldwork.

This definition differs in several ways from the prevailing definition of specialization.

The use of "niche" allows us to take a step back from jobs and settings for which library schools have traditionally educated to look more broadly at new types of activities and jobs which may be developing as a result of the transformation of society. Cronin writes (Cronin, 1988, p. 328):

> There is no information profession as such. There is, however, a large scattered and heterogeneous population of professionally qualified people who, for the sake of convenience, can be classified as information workers. This community is so diffuse that it makes little sense to speak of a fraternity or federation of information workers. The spectrum of functions they perform and the range of skills they exercise in their work-a-day lives are too diverse to succumb to simplistic classification. ...Professions, like ecological niches, are dynamic and capable of supporting a number of species without competitive overlap.

A niche is defined as a partitioning of a market or an environment according to some criteria. A niche exists in relation to other niches; as one changes, others adapt to reduce overlap. How the market is partitioned is determined by the market itself, what slots are available to be filled. Therefore, niches serve the function of limiting competition as well as providing the diversity necessary to fill all slots in an environment. Figure 3 lists several possible specialization niches in the information professions.

We find niches to be a useful metaphor for our discussion of specialization; what we should strive for in LIS education is specialization that maximizes the employability of our graduates throughout the information environment and minimizes overlap among the various niches. The fact that the market rather than some external party (e.g., an LIS school) defines the niches allows us to move away from traditional perceptions of our role to a more market-based approach. Which segments of the information

Figure 3. Specialization: Niche Approach

marketplace need to be covered, and how can we position our programs to provide appropriate education for those niches? Any particular LIS school could target its programs for specific niches in order to manage its resources. Thinking of specializations in terms of niches in the evolving information professions may be more constructive than the prevailing notion of skills needed in particular library settings.

This definition also suggests that teaching philosophy, curricular content, and delivery method are inextricably bound together. Discussions of learning and teaching philosophy for LIS programs (e.g. skill-based vs. theory-based) have tended to be separate from discussions of curricular content, with the result that we have not considered which types of learning experience or approach might be most appropriate for each specialization.

This view of specialization allows us to move beyond considering existing organizational settings or jobs or traditional library and information science school roles. As we move further into the "information age," it is evident that new organizational settings are being created and new types of work are being performed. The difficulty is in simultaneously producing graduates for both these new environments and for existing environments. This task may require new types of specializations and new models for our schools. The use of this broader definition should enable us to examine specialization in light of ongoing and dramatic changes in the information professions.

Incentives for Specializations

There are a number of persuasive incentives for considering specialization by niches in the MLS program:

- Increasing complexity of the information environment necessitates specialization; it is not possible to be a generalist anymore.

- Practitioners have found that library school graduates do not have the requisite competencies, and specialization may provide an opportunity to develop those before entering the job market.

- Increasing specialization in programs can bring benefits to faculty and students alike as well as enhance the public's perception of the profession and its professional schools.

- Graduates of niche specialization programs can perform innovative and creative roles in the organizations in which they are employed. Organizations can take advantage of a broader base of knowledge and competencies to improve overall effectiveness of the organization.

- Specialization may increase the marketability and demand for LIS graduates outside the immediate library market.

- LIS programs may be able to grow and increase their critical mass relative to other programs on campus.

We suggest that the development of programs of specialization by niches are necessitated by these factors or will lead to their occurrence.

Information professionals operate in an increasingly complex world. The breadth and depth of what can be called information work has increased to the point where it may be impossible to find a single set of competencies that would be sufficient for all positions. This fact would make a generalist approach to the MLS degree untenable.

Supporting the perception that the complexity of the environment necessitates the development of specialized programs are the persistent cries from practitioners that graduates are entering the profession lacking competencies necessary for jobs. A cursory review of the literature finds many articles which say more or less strongly that LIS programs do not provide adequate training for almost any type of specialization based on the traditional model (e.g., Cloonan, 1991; Gross and Richardson, 1989; Hill, 1990; Seavey and Clark, 1988; Sellberg, 1988).

Sellberg (1988, p. 39), for example, states quite strongly that "library schools do not have the teachers, the internship opportunities, or time to prepare catalogers." She goes on to say that an American Library Association (ALA) committee concerned about this problem came up with recommendations which included that the Committee on Accreditation (COA) and its site teams should convey the importance of cataloging, examine accreditation criteria in light of the shortage of catalogers, and otherwise cause cataloging education to be expanded. Given both the evidence from practitioners and the complexity of the environment, it seems clear that in order to educate and train professionals to perform successfully, we need to either provide them with special skills during their first degree program or establish opportunities for acquiring those skills in other ways.

Increasing specialization is likely to lead to longer programs. Hayes suggests a number of benefits of longer programs for both students and faculty (Hayes and Summers, 1983):

- Increased in-depth examination of a specialty area not only provides specific competencies but also provides opportunities for the development of self-motivation and self-direction skills.

- Students with specialized skills are more able to help faculty in their work. This may provide opportunities for increased mentorship and the development of an awareness of the role of research in library and information science.

- Faculty have an opportunity to teach more specialized courses which enhances their job satisfaction.

Specialization and the development of advanced competencies in graduates may also enhance the perception of the profession and the professional schools within the university and beyond.

Niche specialization patterned on emerging types of work and information-use settings will also enable graduates of such programs to be innovative and creative in their positions. They will be able to draw on a broader range of knowledge (some of it outside of traditional library science knowledge) and competencies to perform more effectively in their organizations. Their competence and innovation will

translate into organizational benefits as the organization uses their expertise to provide better service and operate more effectively as well.

Shank et al. (1991) suggest that one causal factor in library schools' closings is that their graduates have been shut out of the information marketplace with jobs being taking by graduates from other types of programs. This fact has caused universities to look more favorably on the disciplines that are educating students to fill those jobs. One cause of the shut-out of library school graduates has been a lack of necessary skills, especially information technology-based skills. Defining niche specializations would develop more successful graduates thereby bolstering the library school's status within the university. Given the increasing pace of library school closings, this is no small incentive for the creation of specialized programs.

During this discussion, we have offered a new definition of niche specialization. This new definition will enable us to develop new visions for LIS education and make possible the type of change necessary for LIS schools to survive and flourish in the coming decades. We turn now to a discussion of contextual issues which will impact the choices we can make to move forward.

THE LIS EDUCATIONAL CONTEXT

A move toward developing programs and specializations within the context of cell 4 (see Figure 1), will require that we create our future, not react to existing conditions. However, our efforts will not occur in a vacuum. Since library and information science schools are just one component of a system which includes LIS schools and their hosting institutions, students, employers, other practitioners, as well as clients, change on the part of the LIS schools which fails to consider these other components of the system will be ineffectual or detrimental to the system as a whole. The following discussion of contextual issues focuses on the institutional, historical, environmental, and philosophical issues having the most immediate impact on discussions of specialization.

Institutional Issues

Probably the most important set of issues affecting LIS education today are those related to the institutional context in which LIS programs find themselves. Many institutions of higher education are rethinking their mission, programs, and structure in the face of declining numbers of graduating high school seniors and tight or declining budgets. We cannot ignore the fact that the past decade has seen a 20% reduction in the number of accredited LIS programs and a 42% decline in the number of students between 1973-1988 (Shank et al., 1991). Any action we take regarding programs of specialization must improve LIS schools' position and strength within the institution. Issues particularly pertinent to our survival within the institution are:

- What criteria are used by the institution to assess program effectiveness and success?
- Where should the LIS program be located within the institutional structure?
- How can the LIS program demonstrate its intellectual integrity as a professional school?

Discussions of specialization must recognize that LIS programs live in a dynamic and complex institutional environment. Credibility within this environment is essential. Moreover, as the closings of LIS programs indicate, maintaining such credibility is more important than maintaining credibility within the profession or through the American Library Association (ALA) Committee on Accreditation (COA) accreditation.

Institutions of higher education are likely to have differing criteria for what constitutes an effective educational program at their institution. These perspectives will be affected by whether the institution is public or private; research or liberal arts undergraduate oriented; or located in an urban or non-urban setting; as well as by a host of other factors. The key to survival is how well the LIS program is able to position itself given these criteria.

General criteria for program effectiveness/quality likely to be espoused by most institutions include the following:

- Centrality: the degree to which the LIS program supports the mission of the institution and is seen as "central," "integrated," or "supportive" to other programs and activities on campus; the degree to which LIS faculty are involved in other programs and interact with other faculty on campus

- Demand: the degree to which individuals want to take courses and enroll in programs from the unit; the range and types of constituency groups responsible for the demand; and the degree to which the demand is locally, regionally, nationally, or internationally based

- Quality: the degree to which there is the perception on campus that the LIS program is engaged in significant and important scholarly activity, that the program is recognized outside the institution as high quality, and that the professions it serves finds the programs able to meet their needs

- Intellectual Integrity: related to quality, this notion asks what is the intellectual justification for the LIS program? Where does the program "fit" into the scholarly framework of other programs on campus? How does the LIS program contribute to the generation of knowledge and the advancement of science?

- Return on investment: the degree to which the LIS program is a "net loss" or "net profit" to the institution, financially and otherwise.

Interpretation of these five criteria is likely to differ from institution to institution, and some will have greater importance than others. In general, the single program MLS graduate degree with inadequate critical mass and infrastructure may find it very difficult to satisfy such criteria.

Small units isolated from the remainder of the campus, both intellectually and structurally, are likely to be reviewed by the institution, regardless of the perceived demand for such a program. Indeed, Paris (1986) found that the "isolation" issue was a key factor in the closing of 4 schools. Despite this finding, the majority of LIS programs are still relatively small, structurally separated from other units, and often intellectually isolated from related scholarly activity on campus. Specialized LIS programs which are larger in size, offer multiple programs, and are integrated with other departments may provide some of the necessary ingredients for success in the current institutional climate.

The nature of the LIS program as a professional school or as a discipline continues to confound our perception of ourselves as well as the institution's perception of us. Such confusion raises questions regarding the intellectual integrity of the LIS program. A professional school is a decidedly different animal than a discipline, and many LIS programs find themselves unable to articulate the difference and develop strategies or programs to position themselves appropriately within the institution.

Conflict between visions of LIS education as professional training or education in a discipline is exacerbated by the shift from a practitioner model of LIS faculty to a more "normative" university faculty model with a concentration on the traditional measures of faculty productivity (Heim, 1986). The Shank report points to library schools' inability to produce research or an intellectual corpus which contributes to the university as reasons for library school demise (Shank et al.,1991). Institutional assumptions regarding what constitutes a professional versus a discipline-based school have significant impact on the programs and specialties that can be offered.

Given the desperate situation in with some LIS schools find themselves, our discussions of specialization must always place the institutional context in the forefront. There are a range of other contextual issues which, while of lesser import, must also be considered as part of the LIS educational landscape.

Historical Issues

In an ideal world, we would have the luxury of beginning a discussion of specialization from scratch. LIS schools have a 100 year history however, and this history is often an anchor affecting future directions. A number of features of this history are relevant to a discussion of specialization.

- Librarians traditionally have seen themselves as generalists and have believed that any undergraduate degree (especially a liberal arts degree) would provide adequate background for the MLS.

- There is an existing accreditation process which has influenced what educators teach and how programs are structured.

- Over the years, skills and knowledge needed in the "information age" have been incorporated in non-LIS programs.

These issues impact on LIS education by reinforcing the status quo represented by existing programs and curricula and mitigates against our ability to develop and offer structured programs of specialization.

The belief that librarians (and now information professionals) should be generalists, and thus, all things to all clientele, has deep roots in the profession. The onslaught of technology is forcing the profession to reconsider this position. While there are jobs available for "generalist" librarians, they tend to be at the low-end of the job market. Moreover, one might argue that such generalists simply serve to preserve the status quo of traditional library activities rather than the development of innovative services and are, therefore, unprepared upon entry into the market.

The belief in the value of a generalist education springs in part from longstanding accreditation practices. Whatever one's personal opinion about the usefulness or limitations of the COA and the accreditation process, it is clear that they have shaped the content and structure of LIS schools. The guidelines state that schools should be judged on their own stated goals and objectives, but the COA has also outlined a number of content areas for an MLS. These are (Robbins, 1990, p. 213):

1. An understanding of the role of the library as an educational and informational agency

2. An understanding of the theories of collection, building, and organizing library materials for use

3. A knowledge of information sources and an ability to assist the user of library materials in locating and interpreting desired items

4. A knowledge of the principles of administration and organizations to provide information services.

Some schools have developed a core curriculum around these content areas. The existence of a core curriculum suggests that there is a set of competencies that all library/information professionals need to acquire. As we consider specialization, we should assess the legitimacy of this assumption and the associated potential of current core curricula to hinder experimentation and innovation in LIS education.

The impact of the COA on LIS education may not be limited to curricular content. For weak programs, with little visibility on campus, with few resources, COA may be a useful tool to gain administrative attention every seven years or so. However, for many of the stronger programs with innovative curricula, major research initiatives, and a strong presence on campus, the COA process may be a costly and time consuming process without significant benefits. Worse, it may be an embarrassment to the program since it must then "explain" to university administrators the basis for COA's very traditional recommendations.

Moreover, the COA process fails to recognize that the most important criteria for success are typically institutional criteria, and NOT those articulated in the guidelines and discussed in the recent ALA-COA self-study. Being accredited by ALA-COA has had little impact on the recent decisions to close or review LIS programs.

An additional historical feature is that education for many of the competencies needed in the "information age" has been taken on by other types of programs and disciplines. Williams and Zachert (1986) trace this development to library schools' slow acceptance of changes in the dissemination and handling of information which began after World War II. They point to the splintering off of special librarians (into the Special Library Association) and documentalists (into the American Documentation

Institute), as well as the development of educational programs in computer and information science, as evidence of this trend. Programs in information science, management information systems, telecommunications, instruction, and other areas are completely separate from library education, techniques, and philosophies. Shank et al. (1991) cite this historical trend as part of the explanation for library school closings. Many of the new, exciting, and technically based courses are already established outside LIS schools. As we consider specialization in our MLS programs, we may want to position ourselves relative to these other programs or begin to work cooperatively with them.

Environmental Issues

A number of environmental factors should be considered in assessing the appropriateness of LIS specializations:

- The environment in which information professionals operate is increasingly complex. Organizational settings are changing, demanding new skills, new management techniques, and new types of employees.
- There is only a weak link between LIS employers and educational programs.
- Students are primarily self-recruiting and come from the local area. Many employers may not be able to recruit nationally but need to hire employees from a local pool.
- Many library and information professionals may change the type of job they do on a regular basis.

Such environmental factors add to the uncertainty of knowing which types of specializations might be appropriate in today's and tomorrow's society.

Perhaps the most significant feature of the environment is its increasing complexity. There are new types of information work; a complex and changing array of information resources, technologies and services which necessitates new types of employees capable of operating in this environment effectively. In such an environment, specialization may be a necessity rather than a luxury, since there may be no "generic" information handling skills, only skills specific to particular situations.

A second feature of the environment is that there seems to be only a weak link between employers' preferences for graduates and the educational programs in which those graduates were enrolled. Job advertisements testify to the fact that employers prefer graduates with an ALA-accredited MLS, but there seems to be little attempt to hire graduates who have taken specific courses except perhaps for school media specialists (Robbins-Carter and Seavey, 1986). Additionally, although there is some evidence that specialized degrees enhance hireability, the evidence also points to an unwillingness to pay for that advanced education (Marchant and Wilson, 1983; White and Paris, 1985).

As we are well aware, most students in LIS programs are self-recruiting and come from the local area. This factor has affected our ability to provide specialized programs since these graduates often need to be educated for a variety of jobs available locally. There is also evidence that employees change the type of work they do as they move from position to position (Fisher, 1987).

These environmental factors suggest that specializations acquired during a degree program may not remain useful throughout one's professional life. Rather than let that prevent us from developing specializations, the profession and LIS educators should consider steps to ensure ongoing programs or re-education and specialization throughout various career paths.

Philosophical Issues

The profession continues to debate philosophical issues that are at core of professional education and their place in the university setting. There is a long history of discussion of these issues in the literature, and the key questions will only be summarized here.

- Is library/information science a profession? a discipline?
- What skills/attitudes/knowledge bases define an information professional?

- Whom are library schools attempting to educate?
- What is the role of a professional school in training versus educating professionals?
- What is the role of research in LIS education?

How we answer these questions will impact the types of specializations we can develop.

One of the most frequently cited characteristics of a profession is a body of knowledge associated with it. This leads naturally to the question of what skills, attitudes, and knowledge define an information professional. Many have suggested a variety of features (e.g. Grover, 1985; Mason, 1990; Schlessinger et al.; Vondran, 1990). Should we care if specialization will lead to a diversity of skills and knowledge which might be difficult to integrate into one body of professional knowledge?

Estabrook (1986) suggests that this problem already exists in the case of the information resources management (IRM) specialty. Her argument is that the history and value system of IRM is different enough from library science that we must consider it a different profession. Robbins (1991) has recently suggested that the academic information specialist of the future might not be based in the library but in a particular department with a first allegiance to the department. Clearly such a model would greatly impact our idea of what makes us a profession and how we educate professionals.

Another characteristic of a profession is a training period for professionals. Robbins-Carter and Seavey (1986), quoting Heim, state that specialization may, however, only be a weak indicator of a profession: "It seems that specialization, insofar as it lengthens the period of professional training is an indicator of professionalism, but that specialization in the basic training period is not" (p. 569).

The consideration of library and information science as a profession also raises the question of the role of the LIS school in educating for a profession. Some professions (e.g., medicine) educate and train virtually everyone involved from technicians to full professionals. As Robbins (1990) points out, library schools generally do not train technicians, and this may be problematic as more jobs in libraries are being done by technicians as librarians get increasingly involved in more complex tasks. She also states that the "function of a professional school is to educate for the broad field, not to emphasize training in the narrow skills of the field" (p. 212). As we consider specialization, we need to bear in mind that our definition of what constitutes a profession and our perceptions of the role of a professional school may influence whom we educate and to what extent we educate them.

Also under debate are issues regarding the proper role of research in LIS programs. To what degree are faculty expected to conduct research and what types of research are appropriate? Generally, the research basis of LIS has been weak at best, and there is still considerable discussion of issues related to research in a discipline-based view of library science (McClure and Hernon, 1991). New models for the role of research in both the curriculum and in faculty activities for LIS programs need to be developed as we move toward cell 4 (see Figure 1).

Too Little, Too Late?

An overview of the issues identified in this section suggests that the health and quality of many LIS schools will be carefully examined in forthcoming years. Responsibility for the current state of affairs lies in many quarters: the profession has paid little attention to LIS education, LIS schools have been complacent within their institutions and lax at assessing professional needs, employers hire LIS school graduates at relatively low salaries regardless of the location and nature of the LIS program, students have not been demanding enough of a high-quality education, and all of us have been slow to recognize the potential impacts of changes in the information environment on LIS educational programs. Our job today is not to assign responsibility for problems in LIS education but to come quickly to an understanding of possible avenues for improvement.

The crucial question is: Can LIS programs be revamped quickly enough to serve an important and integral role (1) in the host institution and (2) in the education of information professionals? The authors believe that, simply put:

- some LIS schools will be ignored by their host institution and will continue to operate in cell 1 (see Figure 1) as traditional library schools.

- some LIS schools will be unable to make the cataclysmic and strategic changes necessary and will likely be closed by the end of the decade.

- some LIS schools will limp along in a state of benign neglect, with inadequate resources and faculty to provide high quality LIS education, eventually becoming candidates for closure.

- some LIS schools will evolve into dynamic programs offering leadership both within the institution and within the profession.

Providing options for a range of programs and specializations, at both the graduate and undergraduate levels, will be essential for those in the latter category.

The concept of niche-based specialization may offer LIS programs an important conceptual framework through which to expand on the traditional specializations outlined in Figure 2 and to better position the LIS program both within the institution and in the profession. Given the contextual issues discussed above, each LIS program could target niches in the information professions for which they are best-suited to educate. An exploration of the options described in the scenarios below may offer some guidance as to which niches might be best targeted by individual programs.

Options for specialization need to be considered from a strategic planning perspective. LIS schools need to position themselves appropriately in relation to their institution and the environment in order to become competitive with other types of educational programs which are developing graduates for information profession niches. Programs of specialization must contribute to that competitive positioning process, enabling a school to define its niche within the institution and the profession. Such specialization programs will be possible if we develop new visions of our roles, make hard decisions about how to fulfill those visions, leverage resources, and target our services to specific groups. None of this will be easy, but we cannot afford to wait.

POSSIBLE SCENARIOS FOR SPECIALIZATION

A key component of strategic planning is vision. A vision of the future provides a target. Without a target, we tend to get bogged down in what is, rather than move toward what might be. Visions catapult us out of our complacency, and with a vision established, we can turn to means of achieving it.

A technique for focussing vision that has been used with much success by strategic planners and others involved in change processes is scenario development (Amara and Lipinski, 1983, pp. 41-82). A scenario is a description of how a future state of being might evolve. Scenario development requires policy makers to make their assumptions about the future explicit and to describe a future state of the organization in light of these assumptions and in light of possible organizational goals and resources. Scenarios can be used to direct the development of an organization. The authors have found the technique useful in a variety of settings for moving organizations beyond a discussion of what currently exists to a discussion of how to move towards entirely new, more visionary goals.

As has been suggested throughout this essay, LIS education stands at a crucial point between traditional roles and programs and the need for an entirely new direction. It is hoped that the following scenarios will provide a leaping off point for a discussion of possible approaches to specialization that will facilitate the type of change necessary to enable LIS education to remain viable. Any one of these scenarios might be enacted in order to fulfill the goals intended for specialization programs as outlined in the beginning of the essay. These scenarios are only some of the possibilities which might exist for meeting those goals. In the ones discussed below, a range of teaching and delivery techniques are possible although not detailed.

Reorganized LIS Program

This scenario finds the MLS degree as one of a number of degree programs in a large and diverse school or program on campus. Instead of there being a separate school of LIS, LIS becomes a department or program in the Communications, Computer Science, Journalism, or Management schools/colleges (to name but a few possibilities). The MLS curriculum takes

advantage of the range of information-based programs and offerings within the larger college. Specializations are designed in light of the organizational strengths of the various programs in the school of which the LIS program is a part.

Underlying this scenario is the desire for the existing LIS program to become part of a larger more interdisciplinary school/college on campus and the degree to which other such programs on campus would agree to "take" the LIS program. Moreover, the LIS faculty would have to be able to "hold their own" in a larger college, the existing Dean or Director of the LIS program may have to accept lower status as department chair or head, and students would compete in a larger context.

The benefits of this type of scenario are that the LIS program may be able to take advantage of resources, programs, and opportunities in a larger setting. For example, the union of the LIS program with another professional school may provide access to a computer infrastructure that may not be available in the existing program. In addition, LIS students would benefit by meeting students from other professional areas and thereby reduce their myopia about the information professions in general.

Extended MLS Program

This scenario has been implemented at some LIS programs, primarily Canadian schools of LIS and a few programs in the United States. The scenario proposes that the professional degree is based on 48-60 credit hours rather than the standard 36 required by most LIS programs. As used here, however, the extended program scenario is not "more of the same," but targeted instruction to fill identified and evolving niches in the library/information professions.

Assumptions underlying this scenario are that students are willing to invest an additional year of study in obtaining the degree, that employers would prefer to hire graduates from such programs as opposed to non-extended programs, and that the requisite skills, competencies, and attitudes needed to be successful in a range of information positions requires more education.

Numerous options exist for how an extended program might be structured and the types of specializations which might be offered. A combination of coursework and fieldwork could be provided; specific specializations and tracks could be defined as areas for specialization within the curriculum depending on institutional and faculty strengths; and teaching/delivery methods could be customized to on-site and remote students.

Post-MLS Professional Certification

In this scenario, a collection of library/information-based professional associations organizes a certification board that requires a post-MLS "information professional" to meet certain requirements and augment his/her education on a regular basis, over a certain period of time. The certification board establishes areas of specialization in which individuals might be certified, it coordinates and supplies educational opportunities, and it determines what requirements have to be met in order to gain certification, for example, as a bibliographic instruction librarian.

Specialization occurs after the graduate MLS degree, although some LIS programs may be able to have the certification board approve a specialization developed within their program. By and large, most of the education for specialization would be accomplished outside the LIS programs although LIS programs might serve as providers for some parts of the certification. Specializations include traditional library jobtypes as well as other and evolving positions in non-library settings.

This approach assumes that the membership of the participating professional associations are willing to contribute resources for the operation of the certification board. It also assumes that a body of professional associations are able to work together and that the American Library Association is willing to expand the number and kind of participants who would direct post-MLS education.

Combination Generalist/Specialist Programs

This scenario allows students to choose a general or a specialized MLS degree. The 36-hour graduate degree program would be, by definition, the generalist degree, although students might concentrate some coursework in areas of special interests. Students wishing to have an MLS degree that indicates a formal specialization would take an additional 18 hours (for example) beyond the 36 in a carefully crafted combination of coursework, fieldwork, and special projects.

With such an option, students would be free to take on the additional costs of a longer program if they judged it worthwhile. LIS programs would offer the 18 credit hour specializations in selected areas where they have specific strengths. It is likely that LIS programs would evolve with different specialization offerings. Students might complete a generalist degree in one LIS program and obtain a specialization degree from another LIS program.

This approach assumes that some LIS programs will be able to define and augment their curriculum with a number of specializations beyond the generalist program. Moreover, it would be necessary that the requirements for the specialization could not be completed within the generalist degree. Specific requirements by employers to hire or show preference for applicants with such specialization would give the specialization credibility in the field. Additionally, LIS programs would need to coordinate their specializations or some associations or foundations might fund a group of LIS programs to provide certain specializations beyond the general degree.

Undergraduate Program

This scenario assumes a major restructuring in the system of LIS education. LIS programs would offer a major in LIS as part of the Institution's BA degree. For example, undergraduates would complete the required liberal arts core (however defined at the institution) and in their junior and senior years complete perhaps 24 hours of coursework from the LIS program. They would receive a BA degree in LIS and would fill a range of "middle ground" positions between existing para-professional and professional positions.

The graduate degree in LIS would require that the BA had already been completed. Students who had not completed a BA in LIS would have to master the skills and knowledge represented in the 24 undergraduate credit hours prior to being admitted into the masters program. The masters degree would then have increased flexibility (even if it stayed at 36 credit hours) to offer a range of specializations since introductory material had already been covered in the BA program. The experience of our undergraduate program at Syracuse is that juniors and seniors would have little difficulty completing the typical 15-18 hour "cores" in place at a number of LIS programs.

Such an approach assumes that the profession (and existing MLS professionals) would "accept" LIS BA's doing much of the work in library/information settings where a graduate degree is not required. It also assumes that existing LIS programs can either develop an undergraduate program or restructure themselves to be part of other programs where such a degree can be offered.

Joint Programs

Some LIS programs have adopted this scenario as an approach to the provision of specializations. Basically, the approach calls for agreements between the LIS program and other programs on campus, or in the local area. Students take coursework or engage in fieldwork under the guidance of this other program. The credit hours might comprise a part of the basic LIS graduate degree or the credit hours might be in addition to the basic requirements for the MLS. The key aspect of this scenario, however, is that the specialization is provided primarily by programs outside the LIS school. It is important to note that joint program specializations typically stress subject areas rather than type of setting specializations.

This approach assumes that the LIS program can make formal and informal arrangements with other programs on campus. It assumes that these other programs are willing and able to provide educational opportunities that would not otherwise be available to the student. Moreover, the opportunities must meet the knowledge needs of the students and be more than simply a mechanism for increasing enrollment in the

other program. The cooperating program may provide both curriculum and fieldwork opportunities related to the specialization.

Clinical Program

In the clinical approach, a key and significant portion of the LIS program comes from learning by doing. The clinical scenario should not be confused with programs that add one or two internships into the curriculum. Rather, a clinical curriculum incorporates regular and ongoing interactions with specially selected on-site learning/doing experiences and has a capstone "residency" experience in a specialized setting of at least six months and preferably one year.

The host library/information center pays professional, entry-level wages to the resident. The LIS program and the library/information center work out a program of activities for the residency, agree upon evaluation criteria, and meet regularly throughout the time period to monitor progress in achieving learning objectives. The student does not receive the graduate professional degree unless the residency is completed satisfactorily.

This scenario assumes that the library/information center community is willing to participate in such a program. Indeed, it might be that only certain libraries/information centers would be certified to offer a residency, and the profession as a whole would support those libraries/information centers offering the programs. The libraries and the LIS programs would have to agree upon a combination of formal and informal activities that would constitute specialization in that specific setting.

While the library/information center may wish to hire the student upon completion of the residency (and thus the degree), such a hiring could not replace the residency position available at that library/information center. The norm would be for the student to complete the residency and then enter the job market and obtain a position not at the residency library/information center.

Prerequisites

The prerequisite scenario is one in which students being admitted to an LIS program must first demonstrate competencies related to and knowledge of pre-determined skills and topics before they are accepted into the program. The idea is to push basic competencies and knowledge outside the formal program and require that students have this prior to admittance. With these "basic" competencies and knowledge already obtained, more time in the graduate program can be dedicated to specialization.

This approach assumes that the LIS program can identify the basic competencies and knowledge to be considered prerequisites. Moreover, it assumes that students will agree to some sort of procedure or process for demonstrating these competencies and knowledge as a requirement for admittance to the program. If the student fails to have the necessary prerequisites, the LIS program will have to devise some remedial steps to remove the deficiencies.

Overview of Scenarios

The scenarios described above are not necessarily mutually exclusive approaches to the development of specializations. Clearly, aspects of each can be combined into additional scenarios. Moreover, those described here offer only a first statement of what some possible specialization scenarios might be. It is likely that additional scenarios can be developed as well. Each of these scenarios have strengths and weaknesses that have to be considered within each LIS institutional setting and according to specific criteria for success.

What is constant across the scenarios is that achieving any of them will require strategic thinking and change. Moreover, they are likely to require greater resources and infrastructure than many LIS programs currently have. The existing traditional models of LIS programs and specializations are ineffective. We cannot rest and wait for these scenarios to evolve; we must forcibly create them by making hard decisions after carefully considering how best to position ourselves in order to remain viable entities in the 21st century.

FACTORS AFFECTING SCENARIOS AND THE IMPLEMENTATION OF SPECIALIZATIONS

A number of contextual issues impact our ability to plan and implement specialization scenarios. Any particular school must base its planning activity on an assessment of its micro-environment. It must deal with a range of issues including organizational structure, commitment to planning, organizational culture, and the types of institutional missions to which the LIS must relate. The school also needs to understand where it stands in relation to the larger LIS educational context. This assessment will help determine which specialization scenarios might be most appropriate for that school. As an example, Figure 4 shows a matrix of possible levels of commitment to planning both on the part of the LIS and its host institution. The scenarios a school selects may depend on the cell (see Figure 4) the school finds itself in.

Along with an assessment of the environment, the implementation of scenarios will necessitate that a number of factors be addressed. While we must present them linearly, the resolution of one clearly impacts on the others.

Who are the Players in the Debate?

To reiterate a point made earlier, a discussion of specialization must recognize that there are a number of potential players in the debate. LIS programs exist in an environment that includes the universities in which they reside, the students in the program, employers, other practitioners, other relevant disciplines, and other interested parties. As we design specializations, we should identify those parties who need to be involved in the debate and determine their appropriate level of involvement.

What are the Goals of the MLS Program?

While the authors have assumed several goals for programs of specialization, we have so far avoided the more general question of the goals of an MLS

Figure 4. Levels of Planning Commitment

	Institutional Perspective			
	knowledgeable and committed	not knowledgeable but committed	not knowledgeable not committed	knowledgeable not committed
LIS Program Perspective				
knowledgeable and committed				
not knowledgeable but committed				
not knowledgeable not committed				
knowledgeable not committed				

Note: The location of a program within any particular cell of the matrix will play a part in determining which scenarios might be possible. This matrix could be expanded to include other contextual issues until a clear picture of the environment is developed. Equipped with a clear picture of the environment, an LIS school can explore those scenarios with environmental assumptions that most closely match the school's environment.

education. Specializations can only be developed in light of whom we are trying to educate. Are we trying to educate any person who is employed in any capacity in an information-handling environment, or perhaps we are interested in educating library professionals only? Are we attempting to provide an entry level degree or a degree that will be sufficient for an entire career? Without some understanding of the goal, or goals, of the MLS, we will not be able to develop appropriate specializations that will effectively and efficiently prepare our graduates. Each LIS program may define its goals differently given its particular situation.

How should Specializations be Defined?

Existing models of specialization have tended to be hampered by an examination of existing settings rather than a more forward look at what might be required in the future (Woodsworth and Lester, 1991). These efforts, however, should not be discarded since they suggest a number of useful facets we should consider as we attempt to determine what is similar and what is unique in information handling jobs. Other facets may also be relevant and need to be considered before we develop a set of specializations which are appropriate for information niches. Some of these additional facets might be the type of organization in which job resides (e.g., for-profit, manufacturing) and rank in organization (e.g., technician, entry-level professional, manager).

Length of the Program

Robbins (1990) reported that current core programs generally require from 12-15 credit hours. How many additional credit hours would be required for specializations? Robbins-Carter and Seavey (1986) postulated a reference specialization that required approximately 40 credit hours. It seems clear that even without a core curriculum, programs of specialization will require more time on the part of students and faculty.

White and Paris (1985) pointed out that many of the schools that have gone to longer programs are state schools with low tuition and with little pressure from the university administration to maintain enrollment. Incentives will have to be provided for students to attend longer programs and obtain specializations. Clearly, one cannot expect students to enroll in a 48-credit hour private institution program, at $350 per credit hour, when they can also enroll at a state university with a 36-hour program at $90 per credit hour if the source of the degree makes no difference to employers.

Faculty Ability and Needs

A frequent situation in LIS schools today is that "specializations" are offered because there is a faculty member available who has a particular interest (Robbins-Carter and Seavey, 1986). Such an ad hoc approach will not be appropriate to the development and maintenance of specialized curricula. It seems clear that more faculty, if not differently educated faculty, will be needed. Specialist programs may require faculty drawn from other disciplines (particularly since there are not enough Ph.D.'s in library and information science), faculty who do not have Ph.D.'s., and the continuing use of practitioners as adjunct faculty.

Resources

Money will be needed to develop and support the specializations and associated tools (e.g., computer hardware and software) and to recruit and maintain faculty. Additionally, funding will be needed to recruit and support students, particularly if the cost of an MLS increases while the value of the degree to employers does not. We are all aware that traditional funding sources are dwindling.

Shank et al. (1991) have pointed to the high cost of maintaining library and information science departments as a key factor in their demise. If we wish to develop a program of specializations, we need to demonstrate our legitimacy to the university as well as identify alternative funding sources to create and maintain the necessary infrastructure and to recruit high quality faculty and students. We also may need to reorganize and restructure the place of the LIS program within the university.

Competitive Advantage

An issue of competitive advantage among the LIS programs must also be considered. Although many LIS students select an LIS program primarily based on geographic proximity, this fact could change drastically. What if a student were able to obtain a graduate degree from LIS program X (across state lines) in 36 credit hours, with no prerequisites, and no fieldwork? At the same time, the local program required a range of prerequisites, specialization in 51 credit hours, and a six month residency. Clearly, the 36-hour program will have a competitive advantage over the more specialized program.

Investment by the Profession as a Whole

The profession as a whole, and especially library/information science employers, must engage in the discussion of specialization. Put frankly, the profession must quit kicking LIS education and develop proposals that include direct employer and practitioner involvement and resource commitment. If specialization programs are to be implemented, they will need support, rewards, and incentives from the field. The degree to which the field, as a whole, is willing to make such commitments is unclear.

Additionally, new approaches to specialization may require a professional "blessing" of some sort to effect change. That blessing may come from the professional associations, the host institutions, the COA, employers, or others. Without some sort of blessing (e.g., certification, accreditation, etc.) there may be no impetus to encourage change and no reward for those LIS programs that do effect change.

Evaluation of Approach

However we decide to meet the goals outlined for specialization programs, we also need to assess whether specialization of curricula meets the needs of the marketplace and the profession. There is little suggestion in the literature of how such an evaluation might be undertaken. Criteria suggested in this section might be used as a means to compare and contrast different approaches to specialization. This analysis, however, must be done in the context of critical success factors currently in use in the home institution.

MAKING CHANGE A REALITY

LIS programs are only beginning to address the issue that libraries and information centers already are facing: we cannot be all things to all people all the time. Such is especially true for the smaller, generalist LIS programs. One might argue that most LIS programs provide a generalist orientation, not because it is the best approach to take, but rather it is the only approach available given faculty size, available resources, and level of interest by the profession as a whole.

In general, during the past 20 years, LIS education has changed little. Over this period of time, the Deans and Directors of LIS programs have shown an amazing lack of leadership both within institutions and within the profession in integrating, expanding, and innovating LIS education. Despite massive changes in society, explosive innovations in information technologies, and the closing of numerous LIS programs, LIS education remains largely what it was in 1971. Simply stated, the LIS generalist education model of 1971 is unworkable and untenable in 1991. It certainly will not meet the needs of the evolving information professions in the year 2000.

What kind of strategies might be necessary to implement the scenarios and achieve the cataclysmic change that we think necessary? Here are some possibilities:

- Disband the ALA COA and create an LIS accreditation and certification board with wide representation from other information professions; develop standards for extended programs and requirements for lifelong certification in specific areas of specialization.
- Have a cadre of 5-10 leading LIS programs eschew COA accreditation and develop their own standards and criteria.
- Make strategic alliances with professional entities (other than libraries) in the information professions in order to receive resource support, adjunct instructors, and placements.

- Have a cadre of 5-10 leading ARL libraries and/or other types of libraries/information centers work with LIS programs to organize one year residency programs that become degree requirements.

- Require regular and on-going certification of LIS educators along the lines that some states have in place for public school teachers or that which is currently done by the Medical Library Association for medical librarians.

Certainly other strategies can be suggested as well. But to some extent, this paper argues for broadening the base of education for the information professions, recognizing that LIS education is only a portion of this larger base, and admitting that it is not the responsibility of an LIS program to solve problems for all library situations (e.g., the one person public library in a community of 1500). The point for this conference is not necessarily to agree on a strategy but to agree that some dramatic cataclysmic strategies are needed.

Cataclysmic change will not occur by LIS schools achieving greater market penetration in cell 1 or moving to cell 3 of Figure 1. Indeed, there appears to be an evolving vo-tech mentality in some LIS schools that focuses on skills, builds enrollment with distance educational offerings to remote sites with inadequate resources and faculty, eschews a research perspective in program offerings, and continues to isolate library education from broader topics in information management and technologies. In the short term, these efforts may allow the program to survive in cell 1; but in the long term, they may only injure the profession of librarianship and impede its integration in to the broader information professions.

Movement to cell 4 in Figure 1 will require cataclysmic change in both the profession of librarianship and in library education. It will occur only when we begin to think of the profession, LIS education, and library/information services strategically. Strategic thinking and planning will enable us to position ourselves to capitalize on available opportunities and match our actions to the risks inherent in the environment, thereby creating a new role for LIS in the coming years. Strategic thinking for LIS programs requires:

- Having a vision

- Making choices regarding what will and will not be done

- Leveraging resources

- Targeting services and resources to specific clientele

- Exploiting competitive advantages

- Making strategic alliances with other information professions

- Positioning the program relative to the institution and the market.

These elements of strategic thinking, employed together, can create a strategic posture, one that is opportunistic, that sets agendas rather than responds to them; and that recognizes the importance and use of power and politics. Such a posture, combined with leadership, vision, and bold decision making is critical to LIS success in the current uncertain environment.

The degree to which a few LIS programs can undertake, themselves, to make massive change in LIS education is an interesting issue. Can a program that is obviously strong, innovative, carefully crafted and offers specializations and residencies, but requires extended time and high tuition fees compete in the LIS marketplace against the traditional 36-hour generalist program? Can there or should there be LIS equivalents to the Harvard Business School? Can massive revamping of LIS education occur naturally, or will nationally agreed-upon standards and certification requirements be needed to do what must be done?

Schools of LIS may not be able to change the existing state of LIS education on their own. If employers continue to accept any type of MLS for any type of position, if professional associations do not establish high standards for LIS programs, and if practicing librarians do not become responsible for, and rewarded for, developing and maintaining competencies over the length of their careers, LIS education may not be able to change. And indeed, what the profession may "want" from an LIS education may not, in fact, be what it "needs."

Empirical justification, while useful, is not needed to restructure LIS education. It will be done only by vision, boldness, and innovation. At issue are values, philosophies, and assumptions. Developing more lists of competencies for specific types of library work, or asking practitioners what types of courses are needed in the "real world," for example, begs the key issues and decisions. Visions, innovations, boldness, and decision making are needed. Perhaps most importantly, willpower and resolve will be the critical success factors required to implement changes in the philosophical and structural underpinnings of LIS education.

The long term future of LIS programs is in the larger milieu of education for information professionals. This future requires movement from cell 1 to cell 4 as shown in Figure 1. Success in cell 4 will require an expanded base of students and resources, a range of graduate and undergraduate programs and specializations, and the targeting of these programs and specializations to niches in the evolving information professions. This future can be achieved, but we cannot afford a "let's wait and see" attitude. We must act now.

REFERENCES

Amara, R., and Lipinski, A. J. (1983). *Business planning for an uncertain future: Scenarios & strategies.* New York: Pergamon Press.

Cloonan, M.V. (1991). Preservation education in American library schools: recounting the ways. *Journal of Education for Library and Information Science.* 31(3), 187-203.

"Columbia SLS to close: Faculty fires off protest," (1990). *School Library Journal.* 35, 8.

Cronin, B. (1988). *Nichemanship for the nineties.* In *Post-professionalism: Transforming the information heartland* edited by Blaise Cronin and E. Davenport. London: Taylor Graham, pp. 328-333.B.

Estabrook, L.S. (1986). Librarianship and information resources management. *Journal of Education for Library and Information Science.* 27(1), 3-11.

Fisher, W. (1987). Does education for special librarianship need to be "special education?" *Education for Information.* 5(1), 15-25.

Griffiths, J. and King, D.W. (1986). *New directions in library and information science education.* Westport, CN: Greenwood Press.

Gross, B.M. and Richardson, J. Jr. (1989). The educational preparation of government information specialists. *Journal of Education for Library and Information Science.* 30(1), 28-38.

Grover, R.J. (1985). Library and information professional education for the learning society: A model curriculum. *Journal of Education for Library and Information Science.* 26(1), 33-45.

Hayes, R.M and Summers, F.W. (1983). Two-year library school programs: Useful extension or waste of time? *American Libraries.* 14, 619-20.

Heim, K.M. (1986). The changing faculty mandate. *Library Trends.* 34, 581-606.

Hill, L.L. (1990). Education for special librarians. *Special Libraries.* 81, 317-29.

Koenig, M.E.D. and Safford, H.D. (1984). Myths, misconceptions, and management. *Library Journal* 109, 1897-1902.

McClure, C. R., and Hernon, P., eds. (1991). *Library and information science research: Perspectives and strategies for improvement.* Norwood, NJ: Ablex.

Marchant, M.P. and Wilson, C.F. (1983). Developing joint graduate programs for librarians. *Journal of Education for Librarianship.* 24, 30-37.

Martin, S.K. (1986). Library education: An administrator's view. *Library Journal.* 111, 115-117.

Mason, R.O. (1990). What is an information professional. *Journal of Education for Library and Information Science.* 31(2), 122-138.

Paris, M. (1986). *Library school closings: Four case studies.* Ph.D. dissertation, Indiana University.

Robbins, J. (1990). Master's degree from a program accredited by the American Library Association required. *Journal of Education for Library and Information Science*. 30(3), 206-217.

Robbins, J. (1991). Cultural authority achieved through specialization. *The Journal of Academic Librarianship*. 17(4), 214-215.

Robbins-Carter, J. and Seavey, C.A. (1986). The Master's degree: Basic preparation for professional practice. *Library Trends*. 34, 561-90.

Schlessinger, B.S., et al. (1991). Information science/ library science education programs in the 1990's: A Not-so-modest proposal. *Library Administration & Management*. 5, 16-19.

Schmidt, K.A. (1990). Education for acquisitions: A History. *Library Resources and Technical Services*. 34, 159-169.

Seavey, C.A. and Clark, S.M. (1988). Library education for work with maps. *Journal of Education for Library and Information Science*. 29(2), 121-126.

Sellberg, R. (1988). The Teaching of cataloging in U.S. library schools. *Library Resources and Technical Services*. 32, 30-42.

Shank, R. et al. (1991). *ALA Special Committee on Library School Closings Report*. Unpublished.

Summers, William F. (1991). The necessity for philosophical adaption. *Journal of Academic Librarianship*. 17(4), 211-212.

Vondran, R.F. (1990). Rethinking library education in the information age. *Journal of Library Administration*. 11(3-4), 27-44.

White, H.S. and Paris, M. (1985). Employer preferences and the library education curriculum. *Library Quarterly*. 55, 1-33.

White, H.S. and Mort, S.L. (1990). The accredited library education program as preparation for professional library work. *Library Quarterly*. 60, 187-215.

Williams, R.V. and Zachert, M.J.K. (1986). Specialization in library education: A Review of the trends and issues. *Journal of Education for Library and Information Science*. 26, 215-232.

Woodsworth, A. and Lester, J. (1991). Educational imperatives of the future research library: A symposium. *The Journal of Academic Librarianship*. 17(4), 204- 215.